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To: Provost and Chief Academic Officers

CC: Ohio Mathematics Chairs/Leads

From: Dr. Ricardo Moena, Faculty Lead, Ohio Transfer Module Mathematics, Statistics, and Logic Review Panel/Subgroup 2 of the Ohio Mathematics Initiative Chairs/Leads Network

Date: August 30, 2018

Subject: Announcement of Revised Learning Outcomes for Ohio Transfer Module TMM005 (Calculus I) and TMM006 (Calculus II)

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### **Background and Updates**

Subgroup 2: Revision of the Ohio Transfer Module (OTM) Criteria of the Ohio Mathematics Initiative Chairs/Leads Network has been working throughout 2017-2018 to reassess the Ohio Transfer Module Calculus I (TMM005) and Calculus II (TMM006) course learning outcomes.

The subgroup reviewed endorsement and re-endorsement survey feedback and in order to address concerns expressed by some institutions, the following updates were taking into consideration:

- Removal of most non-essential outcomes from the description of TMM005
- Emphasized the fact that *sample tasks* are not meant to be *required tasks* and recognized that institutions offer programs with specific needs and this may determine the type of applications and problem situations presented to students in a calculus course. These *sample tasks* serve to illustrate the depth of understanding and proficiency that Ohio institutions expect from a successful calculus student.
- The topics required to achieve the learning outcomes described in TMM005 and TMM006 have not changed, neither has the standard allocation of topics to each one of these courses. The fact that many students are admitted into Ohio institutions with AP credit requires us to align our courses with AP courses. This is the reason why we decided to remove an introduction to vectors as essential in TMM006.

- The guidelines are phrased for faculty teaching the subject to make academic decisions about coverage details at the institutional level. Faculty should make these decisions so that a student who successfully completes the learning objectives and achieves the student outcomes of TMM005-006 will have a high probability of success in follow up TAG courses, such as Differential Equations, Multivariate Calculus, and Linear Algebra at any Ohio Public Institution.

### **Implication to your TMM005 and TMM006 Courses**

The OTM Mathematics, Statistics, and Logic Panel consider the updates to TMM005 and TMM006 not substantial enough for resubmission, as the outcomes have been updated but not significantly changed. Existing approved courses do not need to undergo review by the panel at this time.

Thank you for sharing this memo and attachments with appropriate Mathematics faculty and administrators at your institution.

Should you have any questions, please feel free to contact faculty lead for the Ohio Transfer Module Mathematics, Statistics, and Logic Review Panel/Subgroup 2, Dr. Ricardo Moena at [ricardo.moena@uc.edu](mailto:ricardo.moena@uc.edu) or (513) 556-4055.

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